

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference B 3357 PCT	FOR FURTHER ACTION		see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/EP 99/ 03218	International filing date (day/month/year) 11/05/1999	(Earliest) Priority Date (day/month/year) 11/05/1998	
Applicant MICROMET GMBH et al.			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☒ contained in the international application in written form.

☒ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☒ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☒ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

ANTIBODIES TO DENDRITIC CELLS AND HUMAN DENDRITIC CELL POPULATIONS AND USES THEREOF

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP 99/ 03218

Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

Antibodies specifically recognizing a distinct population of human dendritic cells (DCs) and methods of isolating said DCs using said antibodies. Furthermore, antigens and epitopes recognized by the abovedescribed antibodies as well as polynucleotides encoding said antibodies. Also vectors comprising said polynucleotides as well as host cells transformed therewith and their use in the production of said antibodies. Additionally, polypeptides comprising a domain of the binding site of the aforementioned antibodies, or an antigen or epitope described above and at least one further, preferably functional domain as well as polynucleotides encoding such polypeptides. Furthermore, vectors comprising said polynucleotides, host cells transfected with said polynucleotide or vector and their use for preparation of the above described polypeptides. Further a method for isolating or identifying DCs as defined above as well as DCs obtainable by said method and/or characterized by recognition of the above-described antibody, and/or containing the aforementioned antigen or epitope. Moreover, a method for preparing or identifying T cells in a certain status as well as methods for identifying compounds which interfere with T cell mediated activation of immune responses. In addition kits, and compositions, preferably pharmaceutical and diagnostic compositions are provided comprising any of the aforescribed antibodies, antigens, epitopes, polypeptides, polynucleotides, vectors, dendritic cells or T cells or compounds obtainable by the aforementioned method.

Best Available Copy INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 99/03218

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6	C12N15/13	C07K16/18	C07K16/46	C12N5/20	C07K14/705
	C12N15/86	C12N5/10	C07K19/00	C12N15/62	C12N5/06
	G01N33/53	A61K39/00	A61K39/395	A61K31/70	A61K35/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 93 04187 A (MEDICAL RES COUNCIL) 4 March 1993 (1993-03-04) page 2, line 12-16 page 13, line 25 -page 14, line 14 figure 4 ---	1,6,7, 10, 12-32, 44-47
X	WO 98 15579 A (CANTERBURY HEALTH LIMITED ;HART DEREK NIGEL JOHN (NZ)) 16 April 1998 (1998-04-16) page 1, line 29 -page 3, line 17 page 13, line 24 -page 14, line 6 page 14, line 30 -page 15, line 3 page 19, line 23-32 --- -/--	1,6,7, 10, 12-32, 44-47



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

25 November 1999

Date of mailing of the international search report

10/12/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Covone, M

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 99/03218

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 A01K67/027 G01N33/577 G01N33/68 C12Q1/68 A61K48/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 95 12409 A (CANTERBURY HEALTH LIMITED ;HART DEREK NIGEL JOHN (NZ)) 11 May 1995 (1995-05-11) page 4, line 1-8 page 6, line 15-18 page 20, line 20 -page 22, line 20 claims ---	1-54
A	WO 97 04802 A (PACIFIC NORTHWEST CANCER FOUND ;MURPHY GERALD P (US); BOYNTON ALTO) 13 February 1997 (1997-02-13) page 4, paragraph 4 -page 5, paragraph 3 example 8 --- -/--	33-43, 48-54



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

25 November 1999

Date of mailing of the international search report

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Covone, M

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 99/03218

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	SNAPP, KAREN R. ET AL: "A novel P-selectin glycoprotein ligand-1 monoclonal antibody recognizes an epitope within the tyrosine sulfate motif of human PSGL-1 and blocks recognition of both P- and L-selectin" BLOOD (1998), 91(1), 154-164 , XP002123922 abstract ---	12,18-29
A	HSU F J ET AL: "Antigen-pulsed dendritic cells are effective in inducing immune responses in patients with B-cell lymphoma (Meeting abstract)." BLOOD, (1994). VOL. 84, NO. 10, SUPPL. 1, PP. 520A. ISSN: 0903-1936., XP000857234 Div. Of Oncology, Stanford Univ. Medical Center, Stanford, CA. the whole document ---	52
A	EP 0 404 097 A (BEHRINGWERKE AG) 27 December 1990 (1990-12-27) abstract ---	6,7, 18-25
P,X	SCHAKEL K ET AL: "A novel dendritic cell population in human blood: one-step immunomagnetic isolation by a specific mAb (M - DC8) and in vitro priming of cytotoxic T lymphocytes." EUROPEAN JOURNAL OF IMMUNOLOGY, (1998 DEC) 28 (12) 4084-93. , XP000857207 abstract figure 7 -----	1-54

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 99/03218

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9304187	A	04-03-1993	AU	2477792 A	16-03-1993
WO 9815579	A	16-04-1998	AU	4639397 A	05-05-1998
			EP	0956304 A	17-11-1999
WO 9512409	A	11-05-1995	AU	8068694 A	23-05-1995
			US	5876917 A	02-03-1999
WO 9704802	A	13-02-1997	US	5788963 A	04-08-1998
			AU	6714696 A	26-02-1997
			EP	0841940 A	20-05-1998
			NZ	315441 A	29-06-1999
EP 0404097	A	27-12-1990	DE	3920358 A	17-01-1991
			AT	142230 T	15-09-1996
			AU	639241 B	22-07-1993
			AU	5762190 A	03-01-1991
			CA	2019559 A	22-12-1990
			DE	59010480 D	10-10-1996
			DK	404097 T	10-02-1997
			ES	2093623 T	01-01-1997
			GR	3021109 T	31-12-1996
			IE	76715 B	22-10-1997
			JP	3048699 A	01-03-1991
			PT	94443 A,B	08-02-1991
			RU	2096459 C	20-11-1997
			US	5591828 A	07-01-1997